

COMMAND FOR DRILLING

AUTOMATE DRILLING WITH THE MINING AUTOMATION LEADER.

Cat® MineStar Command for drilling ensures that every hole is accurately placed, drilled to the proper depth and angle, and able to stand up until blasting. A range of capabilities lets site managers configure and automate the drilling system to their budgets and needs.

Semi-autonomous single row drilling automates the entire drilling cycle for one row, including autonomous tramming. Autonomous pattern drilling (coming in 2019) automates drill cycles and tramming for the entire blast pattern and allows one operator to manage drill operations across the mine site from a remote operator station.

BENEFITS

- » Enhances fragmentation consistency by precisely executing drill patterns.
- » Ensures accurate hole placement — to the right location and hole depth.
- » Ensures better-shot material, which means smoother downstream operations.
- » Allows removal of operators from dust and other hazards.
- » Improves operator comfort, recruitment and retention.
- » Simplifies training to make new operators productive more quickly.
- » Through improved consistency, reduces the costs associated with fuel, drill tools and explosives.
- » Improves equipment utilization, productivity and operator effectiveness.
- » Allows adjustment of collar elevations on uneven ground to ensure consistent toe elevations.
- » Reduces hole-to-hole tramming time.
- » Preserves machine life and reduces GET tool waste by limiting operation to be within the OEM parameters for both the machine and the drill tools.
- » Enables consistent drilling from operator to operator on any terrain.

DIFFERENTIATORS

- » **Integration.** MineStar is a fully integrated system between Fleet, Terrain, Detect, Health and Command.
- » **Interoperability.** While putting Cat technology on Cat equipment is the idea scenario, Command for drilling is not limited to Cat machines. Command for drilling is interoperable with multiple brands of drills.
- » **Scalability.** Command for drilling follows a building block approach—from Operator Mission Assist to Semi-Autonomous to Fully Autonomous—which allows sites to adopt automated drilling at different levels. This approach is unique to the industry.

SUCCESS STORIES

While full autonomy is still in development, Command for drilling builds on the success of our Command offerings for dozing, hauling and underground to deliver an automation solution for drilling operations that is already proven. Underlying technologies have provided years of reliable performance on mine sites worldwide, and deep integration delivers smooth, precise, predictable control from all Cat Command systems. Today, we're refining and adding capabilities for use across all kinds of operations.

Command for drilling is proven to deliver a 34 percent improvement in production versus a manned operation and a 20 percent reduction in OPEX cost per meter drilled.